Super G™ Wireless PCI Adapter

Model # AWLH4130

User's Manual

Ver. 1A

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Table of Contents

1. Introduction **3**
1.1 Package Contents 3
1.2 Features 3
1.3 System Requirements 3
2. Installation **4**
2.1 Install Driver & Utility 4
2.2 Verify Driver Installation 7
2.3 Configure the PCI Adapter 9
3. Configure the WLAN Monitor **12**
3.1 Configuration Tab 12
3.2 Configuring WEP Encryption 14
3.3 Configuring WPA-PSK/WPA2-PSK Encryption 15
3.4 Status Tab 16
3.5 Option Tab 18
3.6 About Tab 20
Appendix - Technical Specifications **21**
Technical Support **22**

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1. Introduction

The **108Mbps Super G™ Wireless PCI Adapter** is an advanced IEEE 802.11b/g compatible, high performance wireless card that supports data transfer speeds of up to 54 Mbps or 108Mbps in **SuperG** mode.

The **108Mbps Super G™ Wireless PCI Adapter** comes with software drivers for the most popular Microsoft Windows operating systems and can be integrated into a larger network, running Windows 2K or XP in either **Ad Hoc** mode (without an Access Point) or **Infrastructure mode** (with an Access Point).

1.1 Package Contents

Before you begin the installation, please check the items of your package. The package should include the following items:

- 108Mbps Super G™ Wireless PCI Adapter
- Antenna
- Quick Installation Guide
- Manual and Drivers/Utility on CD

1.2 Features

- Compatible with IEEE 802.11g/b higher data rate up to 108Mbps*
- Maximum reliability, throughput and connectivity with automatic data rate switching
- Supports wireless data encryption with 64/128/152-bit WEP for security
- Supports infrastructure networks via Access Point and ad-hoc network via peer-to-peer communication
- Built-in dual diversity antenna for the multi-path environment
- Supports WPA and AES enhanced security
- Friendly user configuration and diagnostic utility

1.3 System Requirements

- A computer with an available PCI slot
- Windows 2000 and XP

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- At least 32 MB of memory and a 300 MHz processor or higher
- An 802.11b/g Access Point for (Infrastructure Mode) or another computer with an 802.11b/g wireless card installed (for Ad-Hoc Mode)

2. Installation

2.1 Install Driver & Utility

This section provides instructions on how to install the **Super G™ Wireless PCI Adapter**. The driver is installed along with the utility.

Note: Be sure to power off the computer before inserting the PCI adapter.

Step 1 Insert the PCI Adapter into an available PCI slot and turn on the computer. Windows will detect the adapter and request for a driver. Click **Cancel** to quit the wizard.

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

Step 2 Insert the Driver & Utility CD into your CD drive and select **Install Driver and Utility** from the menu.

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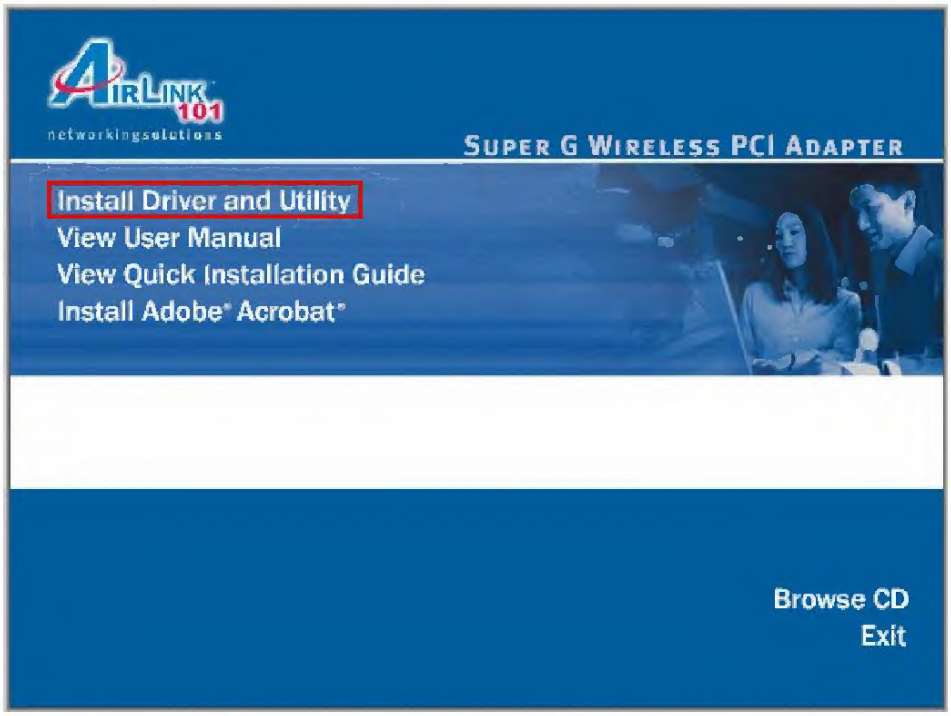
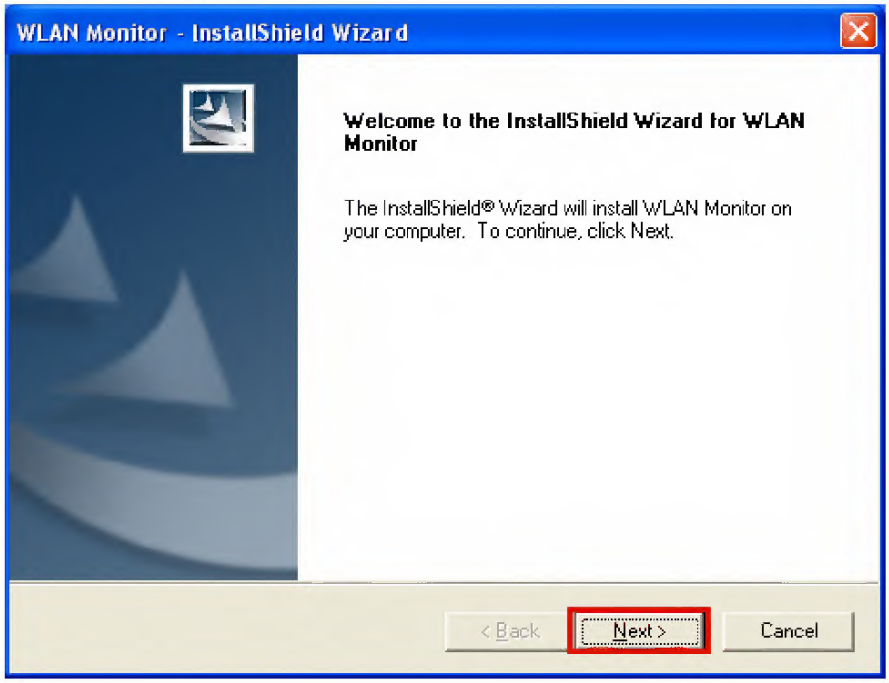


Note: *If the autorun screen doesn't appear automatically go to* ***Start***, ***Run***, *and type* ***D:\Utility\Setup.exe*** *(where* ***D*** *is the letter of your CD drive) and click* ***OK***.

Step 3 Click **Next** at the welcome screen.


WLAN Monitor - InstallShield Wizard
Welcome to the InstallShield Wizard for WLAN Monitor
The InstallShield® Wizard will install WLAN Monitor on your computer. To continue, click Next.
< Back
Next >
Cancel

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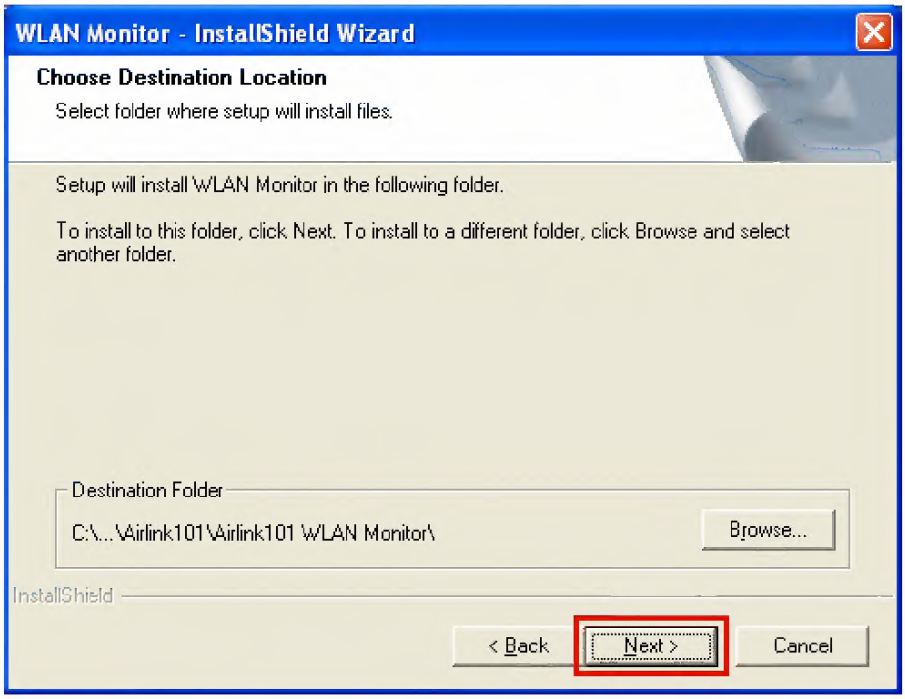
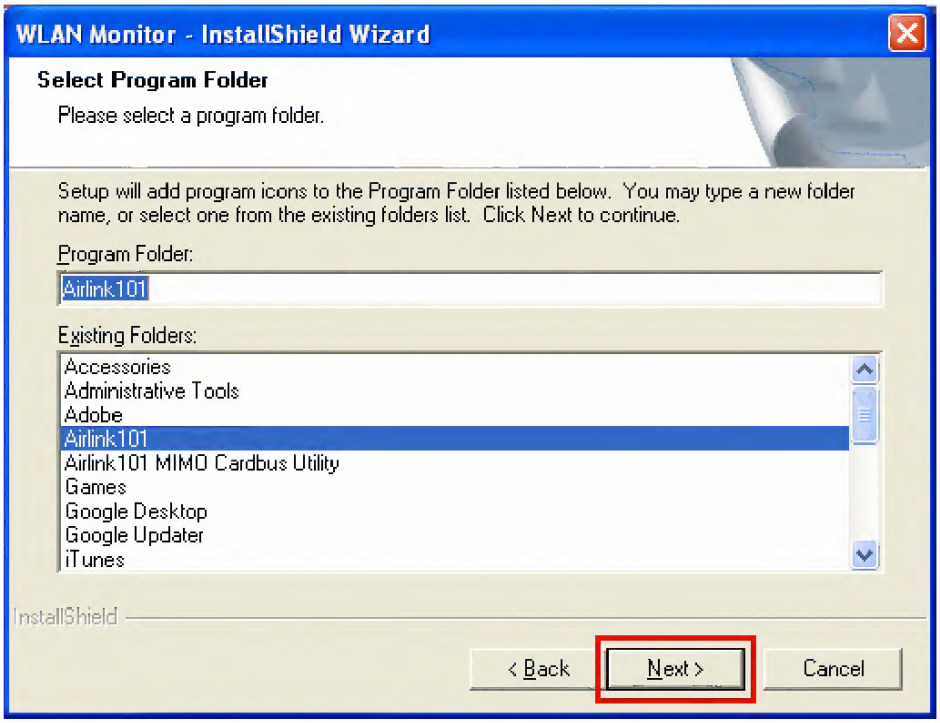
Step 4 Click **Next** to accept the default destination folder to install the software or click **Browse** to manually select a different destination folder.


WLAN Monitor - InstallShield Wizard
Choose Destination Location
Select folder where setup will install files.
Setup will install WLAN Monitor in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\...\Airlink101\Airlink101 WLAN Monitor\
Browse...
InstallShield
< Back
Next >
Cancel

Step 5 Click **Next** at the Select Program Folder screen.



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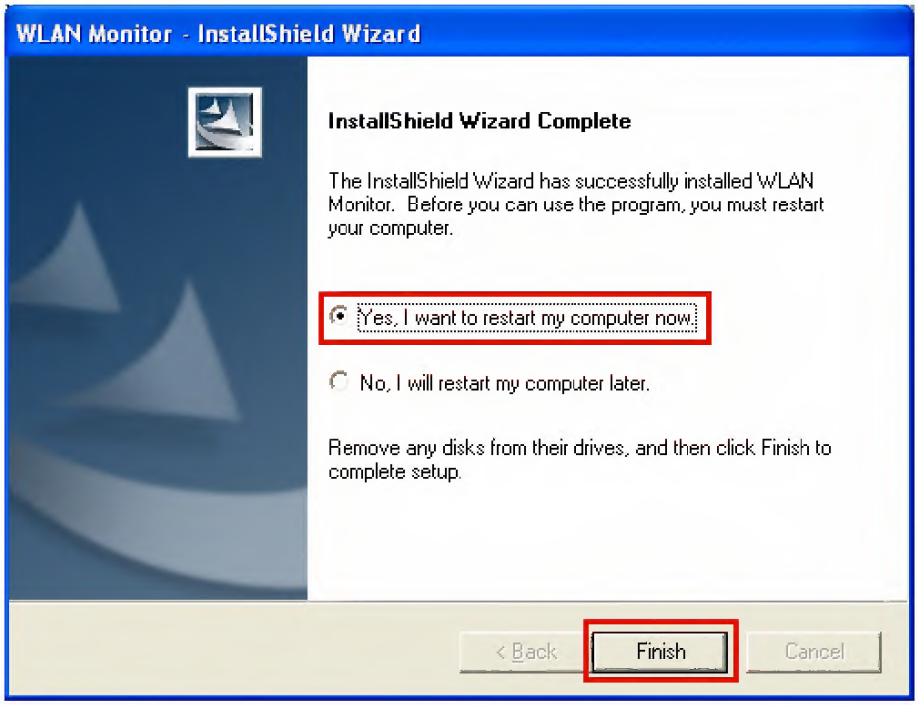
Step 6 Verify **"Yes, I want to restart my computer now"** is selected and click **Finish** to restart your computer.


WLAN Monitor - InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed WLAN Monitor. Before you can use the program, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
< Back
Finish
Cancel

Step 7 After restarting the computer, Windows will automatically detect the PCI adapter and install the driver for it.

2.2 Verify Driver Installation

To verify if the driver has been installed successfully, please perform the following steps.

Step 1 Right-click on **My Computer** from your desktop and select **Properties**.

Step 2 Select the **Hardware tab** first then click on **Device Manager**.

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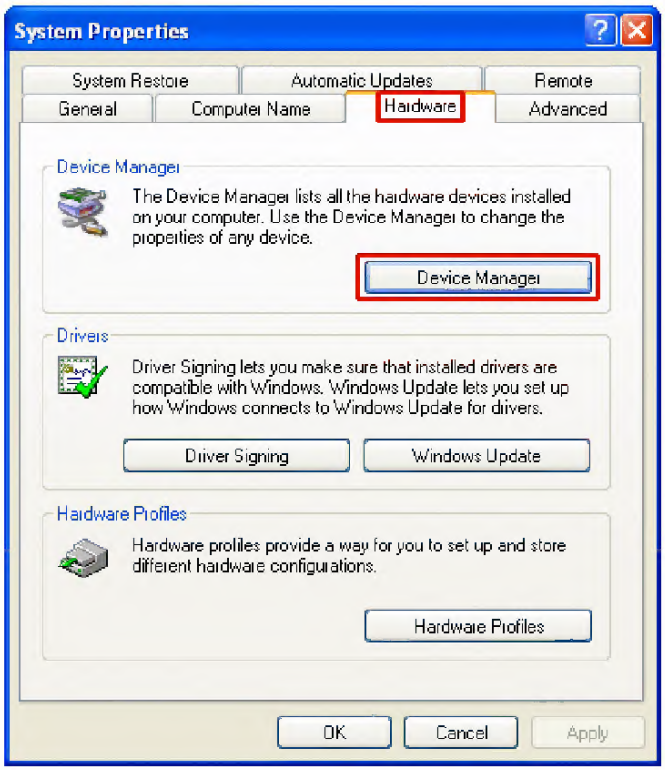
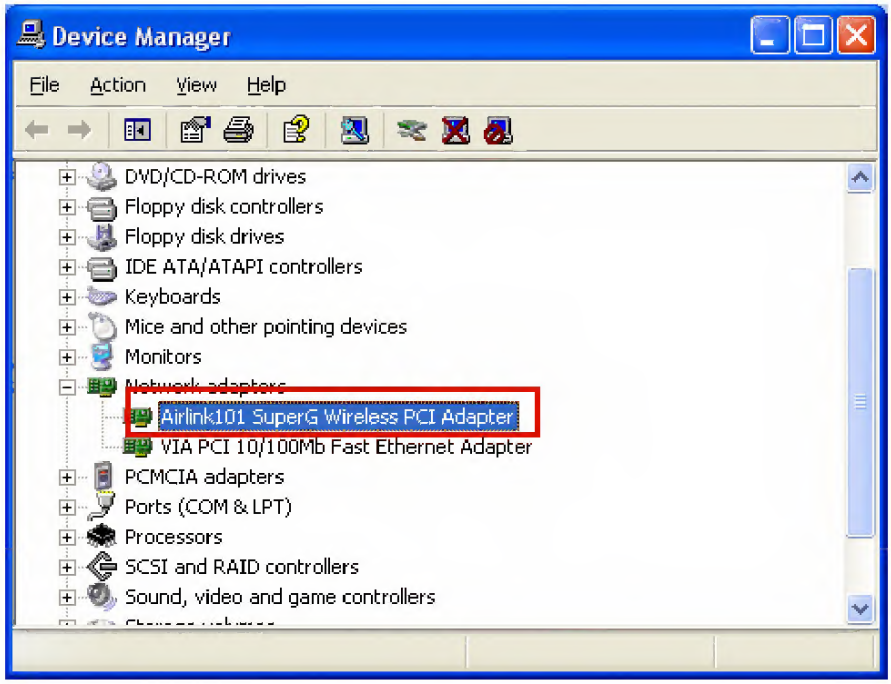

System Properties
System Restore
Automatic Updates
Remote
General
Computer Name
Hardware
Advanced
Device Manager
The Device Manager lists all the hardware devices installed on your computer. Use the Device Manager to change the properties of any device.
Device Manager
Drivers
Driver Signing lets you make sure that installed drivers are compatible with Windows. Windows Update lets you set up how Windows connects to Windows Update for drivers.
Driver Signing
Windows Update
Hardware Profiles
Hardware profiles provide a way for you to set up and store different hardware configurations.
Hardware Profiles
OK
Cancel
Apply

Step 3 Expand **Network adapters** and verify that **Airlink101 SuperG Wireless PCI Adapter** is in the list and that no yellow question mark or exclamation mark is beside it.



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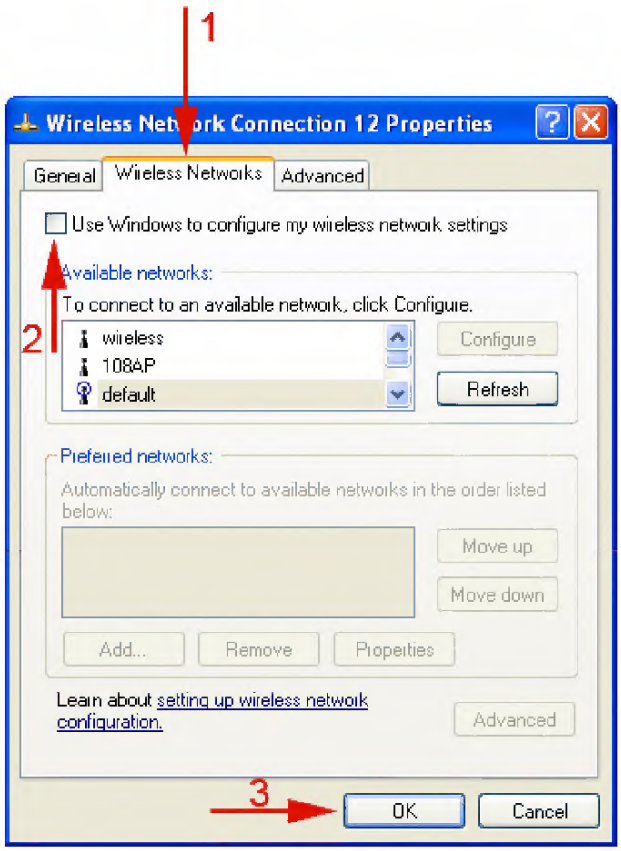
2.3 Configure the PCI Adapter

Note to Windows XP Users:

You must disable the Wireless Zero Configuration Utility in order to use the WLAN Monitor. Please refer to the following steps to disable the Wireless Zero Configuration Utility.

Step 1 Double-click on the **Wireless Network Connection Icon** in the system tray, then click on **Properties** or **Advanced**.

Step 2 Go to the **Wireless Networks** tab, uncheck the **"Use Windows to configure my wireless network settings"** check box and click **OK**.



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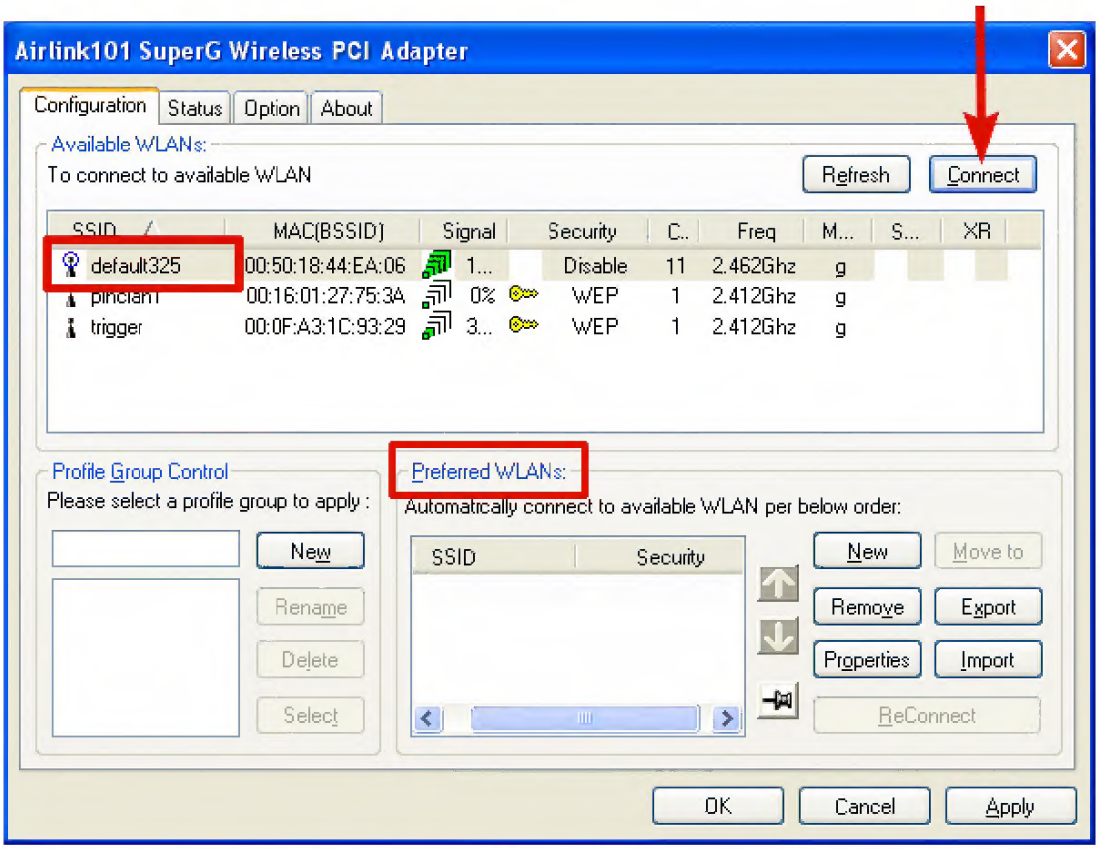
Step 3 To open the PCI Adapter's utility, double-click on the WLAN Monitor Icon in the system tray.

The utility automatically adds an available wireless network to the **Preferred WLANs** box. If no SSID is added, or if the SSID is wrong, please refer to the following steps to join the appropriate wireless network.

Step 4 Select the SSID of the wireless network you wish to connect to from the **Available WLANs** box and click **Connect**.



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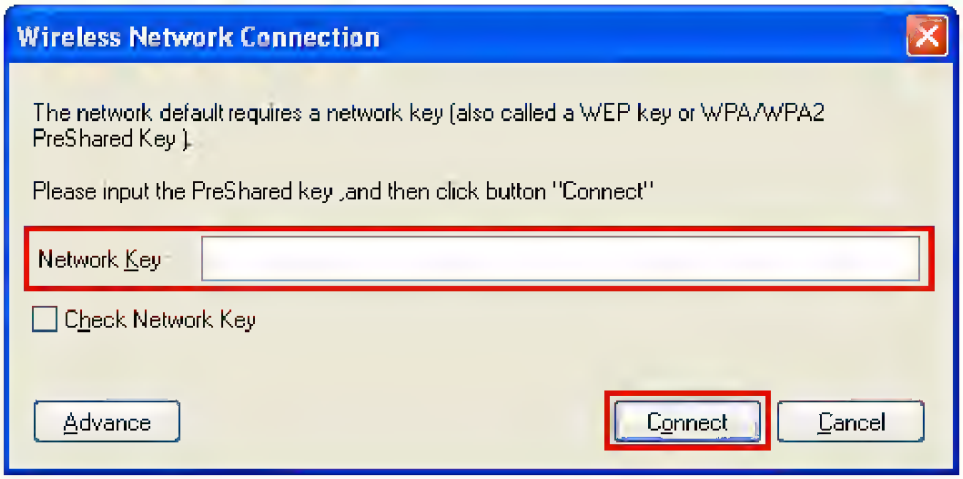
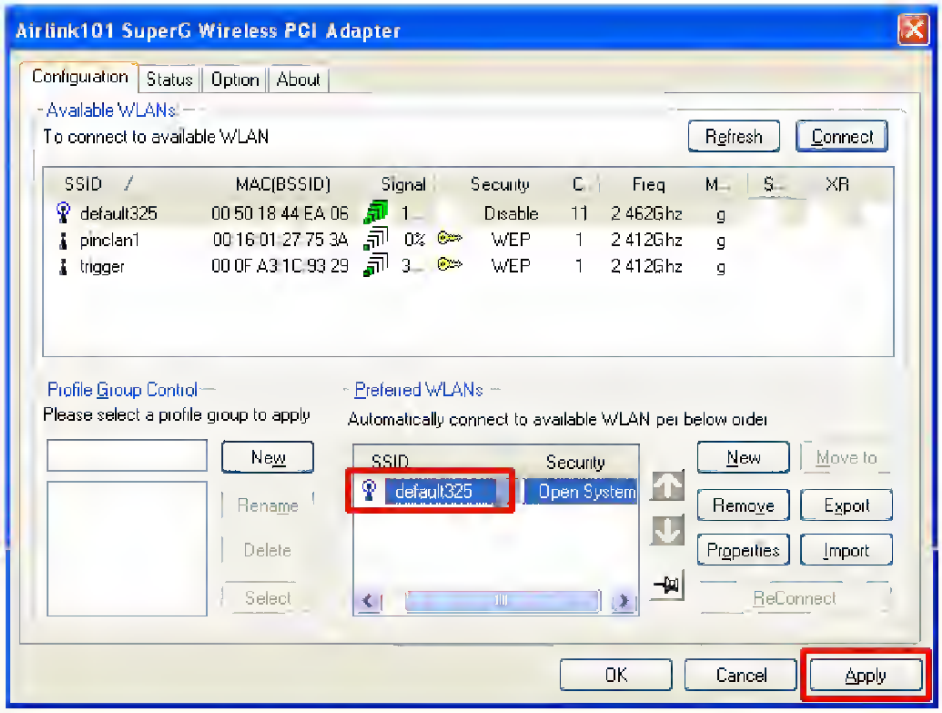
Step 5 You will be prompted for the security key if you have one setup for your wireless network. Verify the key you enter is correct and click **Connect**.


Wireless Network Connection
The network default requires a network key (also called a WEP key or WPA/WPA2 PreShared Key).
Please input the PreShared key ,and then click button "Connect"
Network Key
Check Network Key
Advance
Connect
Cancel

Step 6 Verify the SSID you have selected is in the **Preferred WLANs** box and click **Apply**.



Note: Be sure to remove the wrong SSID from the **Preferred WLANs** box before adding any new SSID. You can remove the wrong SSID by selecting it and clicking on **Remove**.

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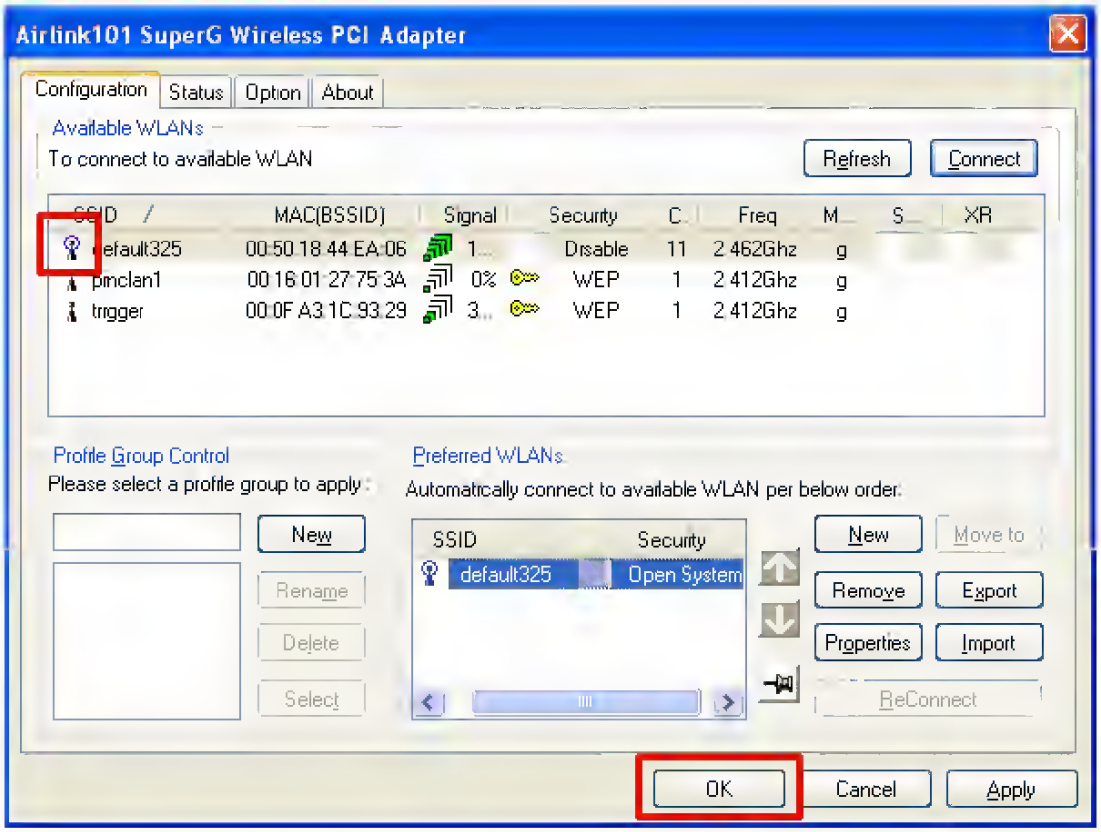
Step 7 A blue circle will surround the SSID you have chosen. Click **OK**.



Congratulations! The installation for your Super G PCI Adapter is complete.

3. Configure the WLAN Monitor

This section describes the various functions of the **WLAN Monitor** that you can configure, including the settings of wireless encryption.

3.1 Configuration Tab

The Configuration tab displays a list of available Access Points.

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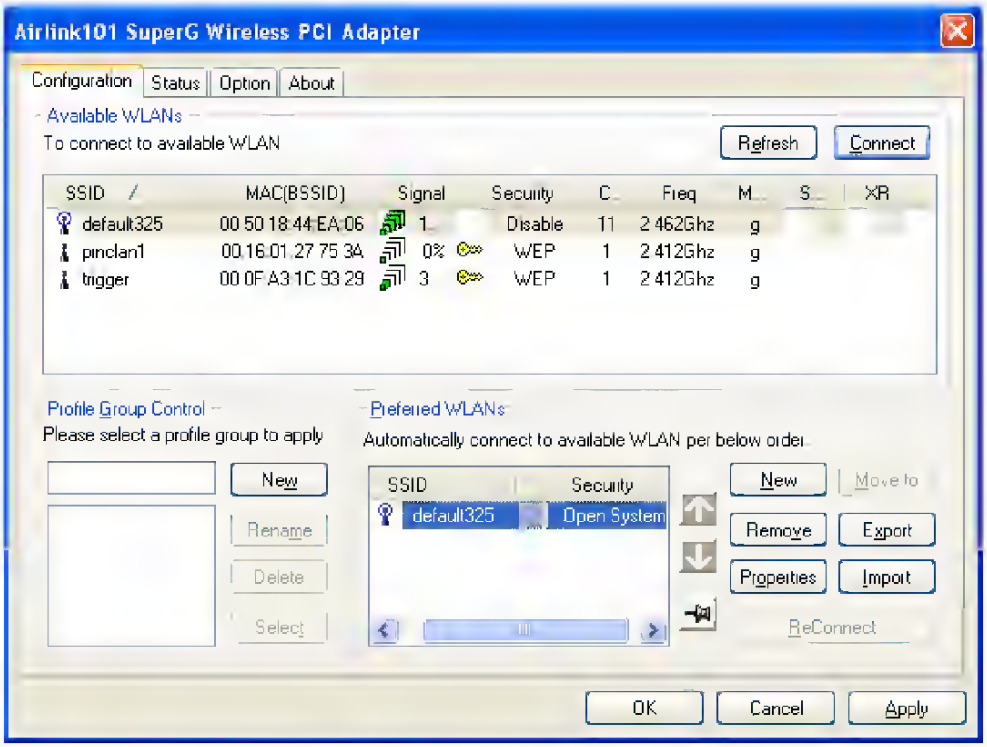

Available WLANs: displays a list of available Access Points that you can connect to. To update the list, click on **Refresh**. To manually add a SSID to the list, click on **Connect**.

Profile Group Control: once you have added all the SSID you want to the preferred WLANs, you can group them by giving them a name in the **Profile Group Control** box and click **Add**. Any settings you set to the group will automatically be applied to all WLANS belonging to that group.

Preferred WLANs: you may add a preferred SSID which the wireless adapter will automatically connect to upon startup. To add a new SSID from the available WLANs list, select the desired SSID and click **Connect**. To add a new SSID that is not listed in the available WLANs list, click on **New** and manually enter the name of the SSID. If you have more than one preferred WLAN, you may move the SSID up or down the list. Each time the computer starts up, the wireless adapter will attempt to connect to the SSID listed beginning from the top of the list. If you wish to configure the properties of a WLAN, highlight it and click on **Properties**.

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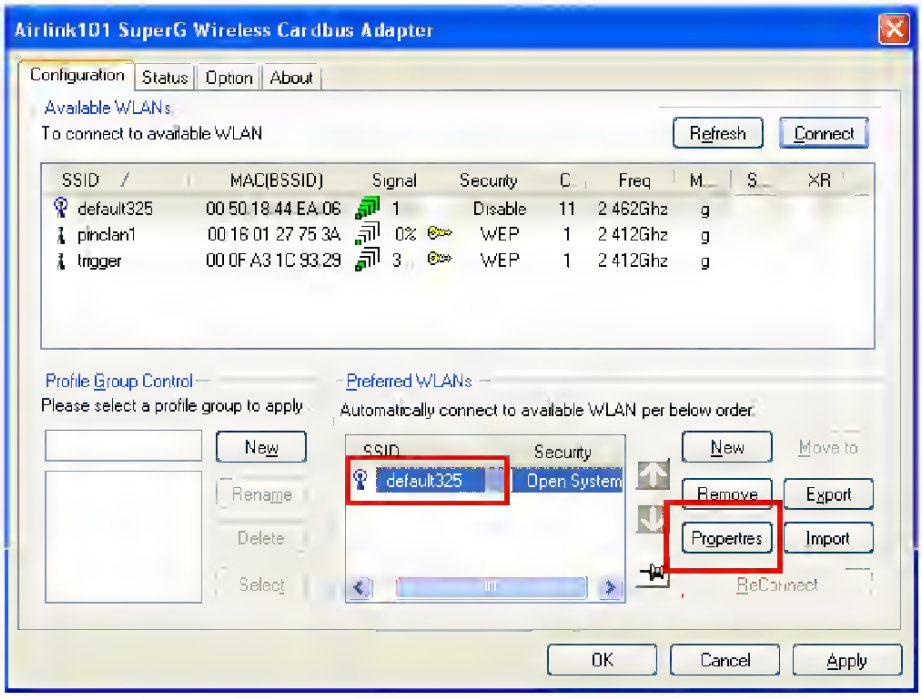
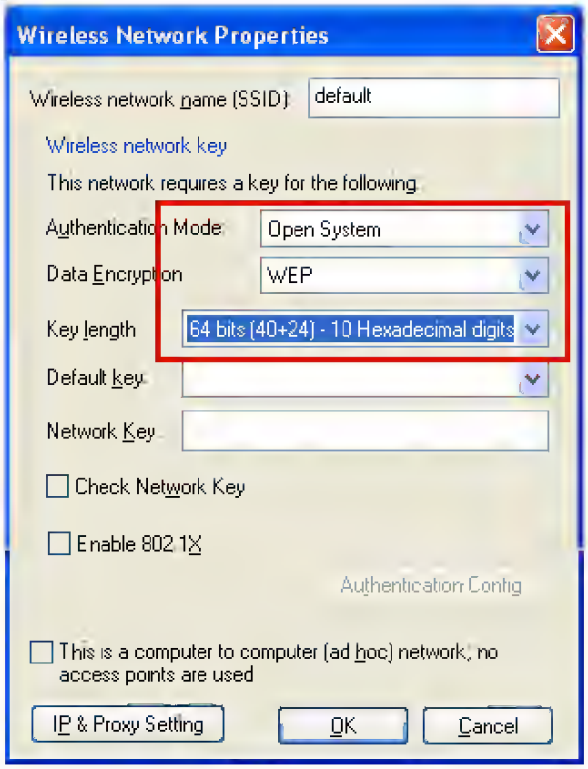
3.2 Configuring WEP Encryption



The following screen will appear after you click on the **Properties** button from the Preferred WLANs box.



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If your existing wireless network has **WEP** encryption enabled, you need to configure the wireless adapter with the identical encryption settings in order to establish a connection.

Step 1 Verify that the Wireless network name matches the **SSID** of the Access Point you're trying to connect to.

Step 2 Verify the **Authentication Mode** is set to the same setting as the Access Point you're trying to connect to.

Step 3 Select **WEP** from the **Data Encryption** drop-down menu.

Step 4 Choose the same Key length that the Access Point is using.

Step 5 Enter the identical key in the corresponding key number

Step 6 Make sure the default key is the same key number used by the Access Point.

Note: both the key and the key number must be identical with the Access Point.

Step 7 Click **OK** to save your settings.

Step 8 Click **Apply** and **OK**.

3.3 Configuring WPA-PSK/WPA2-PSK Encryption

If your existing wireless network has WPA-PSK or WPA2-PSK encryption enabled, you need to configure the wireless adapter with the identical encryption settings in order to establish a connection.

Step 1 Go to the **Properties** screen of the preferred WLAN as described above and verify that the Wireless network name is the **SSID** of the Access Point you're trying to connect to.

Step 2 Choose **WPA-PSK or WPA2-PSK** from the **Authentication Mode**. Select **TKIP or AES** as the **Data Encryption** and click on the **Authentication Config** button.

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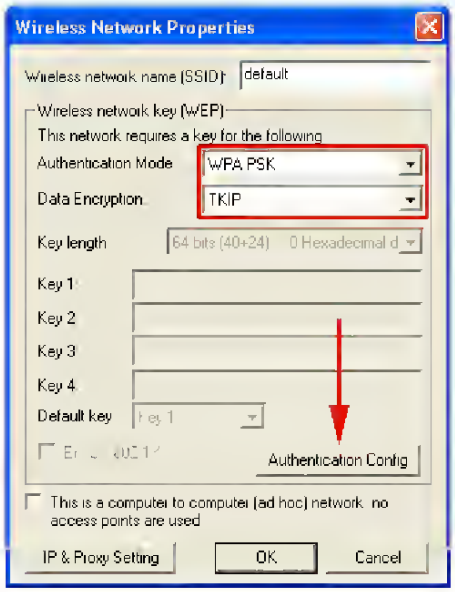
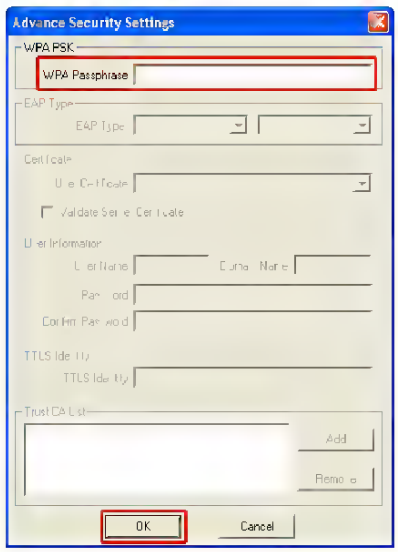


Step 3 Enter a passphare in the WPA Passphrase field and click **OK**. (Note: the passphrase must be between 8 – 63 characters long).



3.4 Status Tab

Under the **Status Tab** you will find information on the connection state, hardware information, and advanced state.

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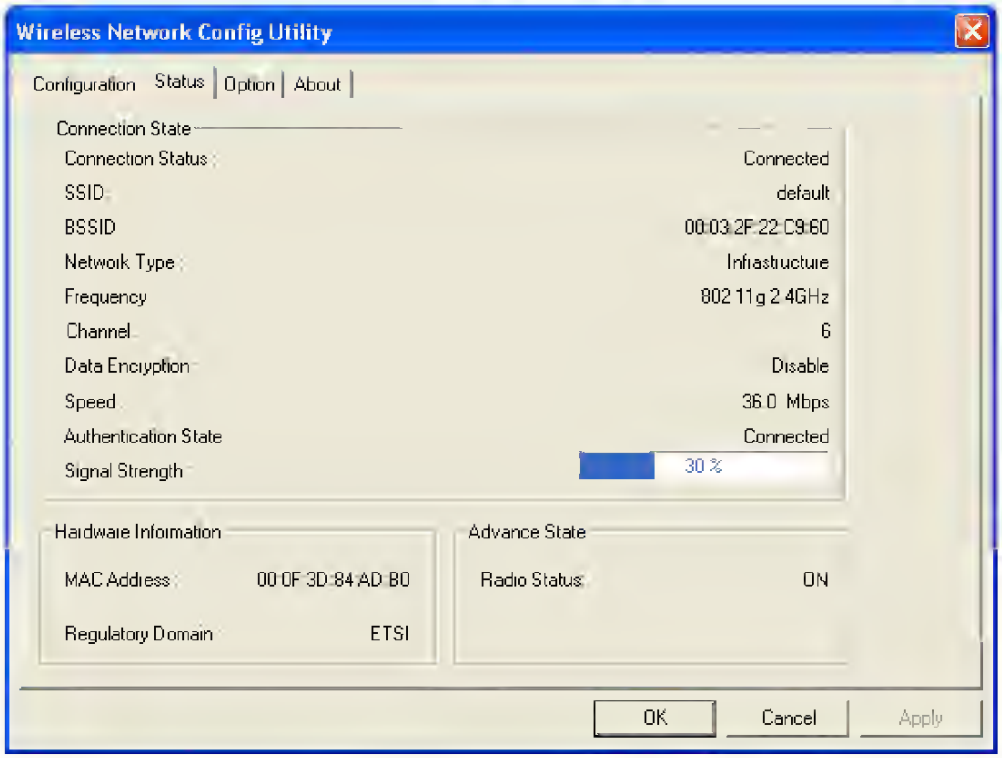

Connection Status: displays the status of the connection
SSID: The SSID that the wireless adapter is connected to
BSSID: The MAC Address of the Access Point that the wireless adapter is connected to
Network Type: The network connection type
Frequency: The frequency that the wireless adapter is using
Channel: The channel number that the wireless adapter is using
Data Encryption: Displays if WEP encryption is disabled or enabled
Speed: Displays the speed of the connection
Authentication State: Displays the authentication state
Signal Strength: A bar shows the signal strength of the connection

Hardware Information: Displays the MAC Address of the wireless adapter and the regulatory domain.

Advanced State: Displays whether the radio signal is On or Off.

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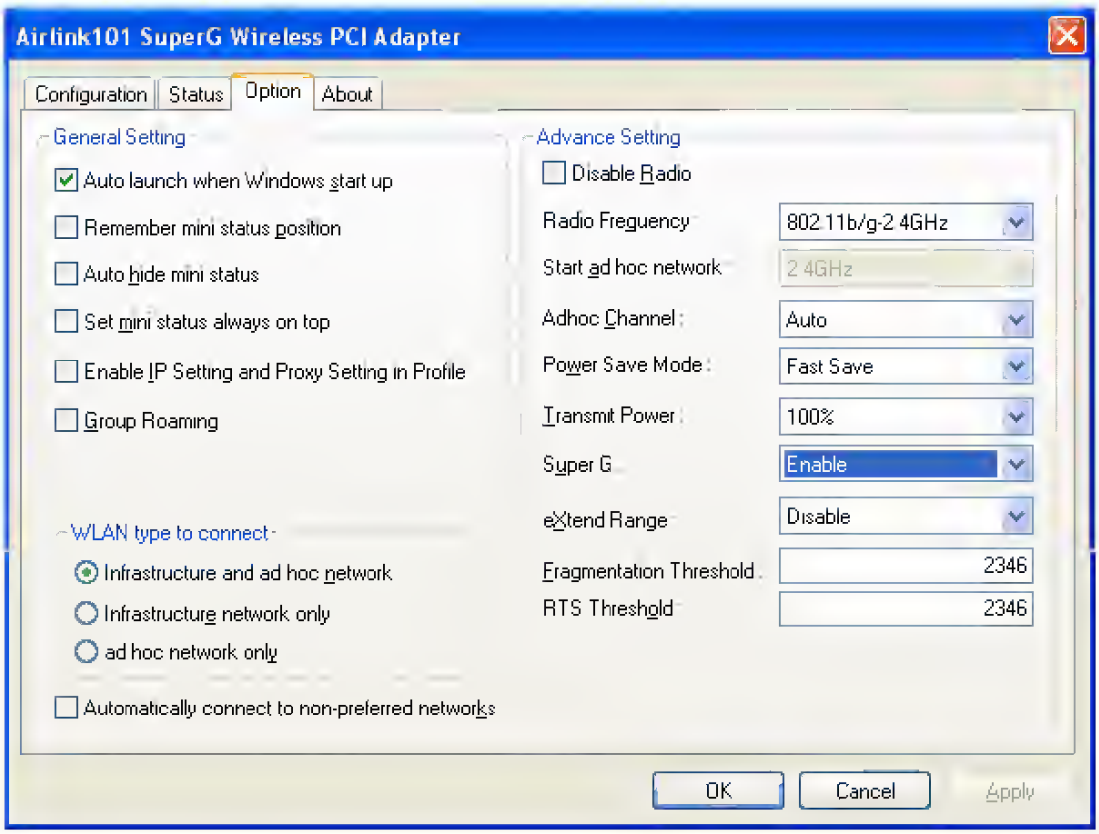
3.5 Option Tab

Under the **Option Tab**, general settings and advanced settings are shown.



General Setting:

Auto launch when Windows starts up: check the box to launch the WLAN Monitor when Windows starts up
Remember mini status position: remembers the mini status position
Auto hide mini status: auto hides the mini status screen
Set mini status always on top: the mini status screen will always stay on top of the desktop
Enable IP setting and Proxy setting in profile: allows you to back up previous IP settings
Group Roaming: Check the box to enable group roaming.

WLAN type to connect:

Infrastructure and Ad-Hoc network: for connecting to either an access point or

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a peer network client without the use of an access point
Infrastructure: for connecting to an access point only
Ad-Hoc: for connecting directly to another wireless client without using an Access Point or wireless router. (Both wireless clients must be set to using Ad-Hoc mode).

Automatically connect to non-preferred networks: Check the box to connect to non-preferred networks upon startup.

Advance Setting:

Disable Radio: Check the box to disable the radio signal
Radio Frequency: 802.11b/g switches automatically between 802.11b and 802.11g speed depending on the other wireless devices. 802.11b will only connect at 802.11b speed (11 Mbps or lower).
Start ad hoc network: Choose the appropriate frequency for your ad-hoc network
Ad-Hoc Channel: Choose the desired channel for your ad-hoc network. All devices in the ad-hoc network must use the same channel.
Power save Mode:
Fast Save - This setting consumes half the power.
Max Save - This setting consumes the least power.
Disable - This default setting consumes the most power.
Transmit Power: Choose to transmit power from 100%, 50%, 25%, 12.5% and Lowest.
Super G: Enable or Disable the Super G function (108Mbps). In order to transfer speeds at 108 Mbps, all wireless devices must be Super G compatible and set to use Super G.
e**Xtend Range:** Enable or Disable eXtend range
Fragmentation Threshold: Set the desired fragmentation threshold
RTS Threshold: Set the desired RTS threshold

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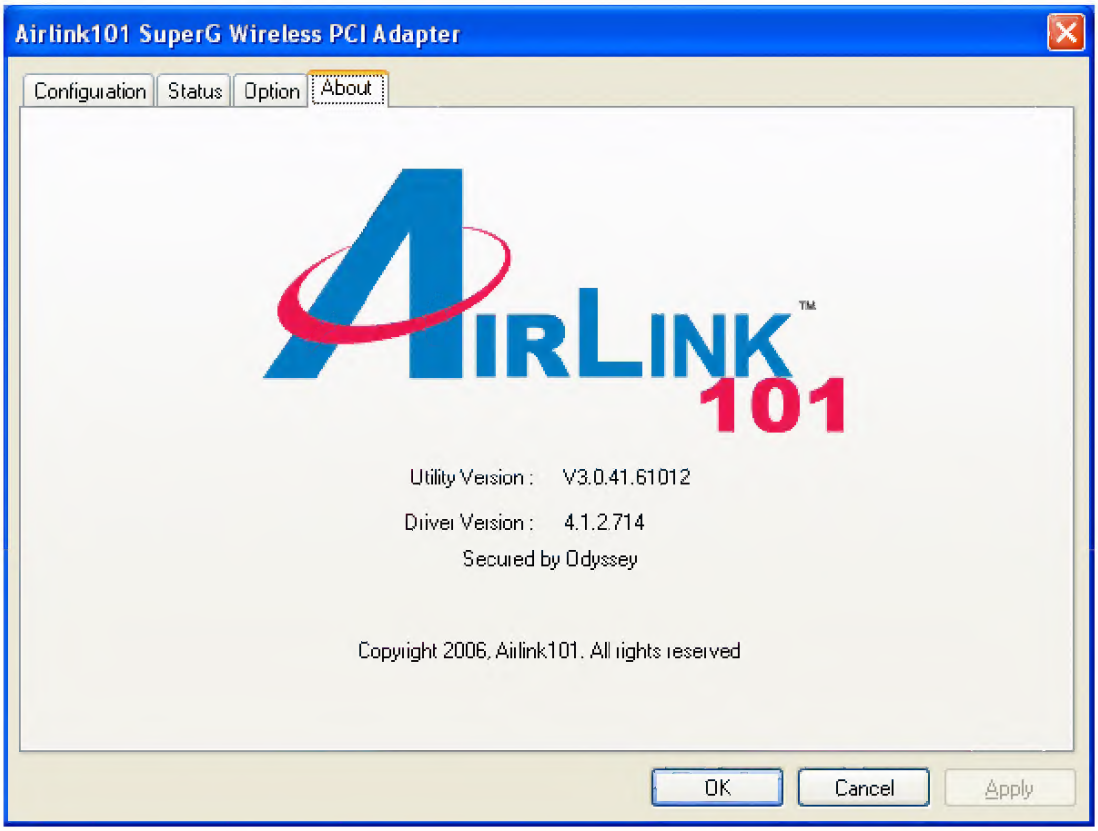
3.6 About Tab

Displays the Driver and Utility version



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Appendix - Technical Specifications

Standards
- IEEE 802.11b/g, Atheros Super G™

Interface
- PCI Local Bus 2.2
- Low profile and half length
- PCI 32 bit

Chipset
- Atheros

Frequency Band
- 2.400~2.497GHz (Industrial Scientific Medical Band)

Media Access Protocol
- CSMA/CA with ACK

Antenna Type
- Omni-directional dipole antenna with 2dBi

Transmit Power
- 802.11g: +12~15dBm
- 802.11b: 18dBm

Channel Numbers
- 11 channels for United States
- 13 channels for Europe Countries
- 13 channels for Japan

Security
- WEP 64/128-bit encryption
- WPA, WPA2*(for Win2K and XP only)
- 802.1x

Data rate
- 108*Mbps
- 54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1Mbps auto fallback

LED
- Power
- Link

System requirement
- Windows 2K / XP
- Available PCI slot

Environment
- Operating Temp: 0ºC to 55ºC
- Operating Humidity: 10% to 90% (non-condensing)

Weight
- 82g

Dimensions
- 120 x 60 mm

Warranty
- Limited 1-year warranty

Safety Approvals
- FCC and CE

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Technical Support

E-mail: support@airlink101.com

Toll-Free: 1-888-746-3238

Web Site: www.airlink101.com

*Super G™ technology (108 Mbps) can only be obtained when using products with Atheros Super G™ chipset.

*Theoretical maximum wireless signal rate based on Atheros Super G™ and IEEE standard 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, mix of wireless products used, radio frequency interference (e.g., cordless telephones and microwaves) as well as network overhead lower actual data throughput rate.

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